



From metallic constructions to renewable energy

PROJECTS THAT CHALLENGE US EVERY DAY

MESSAGE FROM TI

Despite all this, the year turned out to be very positive for Martifer Group INTERVIEW

Pedro Moreira, CFO of Martifer Group

PREPARING THE FUTURE

On the road to energy transition



PUBLISHER

Grupo Martifer, Apartado 17 3684-001 Oliveira de Frades Portugal

DIRECTOR Carlos Martins

EDITORIAL DIRECTOR Paulo César Ferreira

EDITORIAL STAFF Sandra Cruz

CONTRIBUTORS IN THIS EDITION António Castro, Bruno Miguel Santos, Carlos Costa, Carlos Martins, Daniela Ferreira, Diogo Figueiredo, Fábio Reguergo, Filipe Rosa, Gonçalo Cascarejo, Gonçalo Nunes, João Costa Tavares, Joel Silva, Mário Reis Gonçalves, Milton Pereira, Nuno Pina, Pedro Duarte, Pedro Moreira, Pedro Vale, Rui Ferraz, Tiago Martins, Vitor Figueiredo

DESIGN Sandra Cruz

PHOTOGRAPHY Martifer Group bank image

TRANSLATION Andreia Bastos

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CONFIDENCE AND OPTIMISM

Welcome to a new edition of our MNews.We want to show you what 2021 was for us!

We thought that the pandemic would no longer be so present in our lives, but that has not yet been possible. It has forced us to adapt once, twice, several times. And that showed the capacity we have. We are here, prepared and ambitious, in the words of our CEO.

We present the message of our Chairman, Carlos Martins, who shows us that if we continue focusing on productivity and innovation, we can believe that we are on the right track, despite the hardships we still live with due to the pandemic.

An idea also shared by Pedro Duarte, CEO, who sees in people, available for the constant adaptations that the context requires and willing to learn, the key to grow in a solid and structured way.

In Preparing the Future, we address the theme of Energy Transition, such a current and pertinent theme, where the Group, taking advantage of the knowhow resulting from its experience and adding it to the knowledge of the future, is preparing itself for the new energy challenges.

In Focus, we talk about Renewable Energy Communities and Production Units, highlighting two projects already under development, a clear indicator of the priority that Martifer Group gives to reducing the carbon footprint, and this is also a global priority.

Also, in this issue, we interview Pedro Moreira, the Group's CFO. In this interview, we get to know his analysis of his journey at Martifer and the changes that occurred in the last 8 years. He also presents his vision of the Group's different areas.

And finally, we present what we have done in our different business areas. Projects that challenge us, that force us to make changes, and that make us extremely proud after each completion.

The results obtained last year and the message of trust we have received from our shareholders reinforce the certainty that we have in the Group's performance and make us believe that we will continue on this path of sustained stability, which allows us to see Martifer's future with optimism.

Thus, we continue with the same energy, adaptation capacity and willingness to continue to see Martifer Group reach the first places in the challenges it undertakes.

Happy reading!

"

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DESPITE ALL THIS, THE YEAR TURNED OUT TO BE VERY POSITIVE FOR MARTIFER GROUP



It is true that a company with our dimension, with multiannual contracts, everything that happens in the World, whether good or bad, manifests itself in our company a few months later. What was good in 2021 was

the result of the good work done at least in the two previous years.

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At the same time, if we can keep this team strong and united, if we look at productivity as a primary goal and make Innovation part of our day-to-day, we have reasons to believe that the year 2022 will be very positive.



For most people on our planet, the year 2021 may have been the worst of their lives. A year to forget. Most people would be vaccinated until July, so we hoped that the second half of the year would be normal. But this did not happen. And, at the beginning of Autumn, doubts returned. New variants appeared, and there was a new lockdown period.

To face this pandemic, the governments of the rich countries prepared support for their economies. However, the previous lockdown revealed some difficulties, such as the lack of workforce, raw materials and intermediate products. This resulted in production lines with continuous stops and energy at twice the price. All in all, it resulted in an unexpected inflation that we were not used to dealing with, and usually, inflation originates higher interest rates.

Despite all this, the year turned out to be very positive for Martifer Group. I would say that it was even better than expected. It is true that a company with our dimension, with multi-annual contracts, everything that happens in the World, whether good or bad, manifests itself in our company a few months later. What was good in 2021 was the result of the good work done at least in the two previous years. We expect the same will happen in 2022. May it be a year of difficulties, but with the hope that it will turn out to be a positive one.

Throughout 2021, I had more time to talk with people around me. Maybe the pandemic made me a different person. I spoke with various people inside Martifer and with suppliers, clients, and friends. Even the most assertive people have doubts about the future. Some are very concerned, but others are more motivated for the new challenges that the future will certainly bring. This pandemic increased the number of poor people and made the rich richer. It made the world more unequal based on a crisis of values. But today, most people are different; they are more resilient and supportive.

A popular saying affirms that "after the storm comes a calm". We really need to look at the real needs of the world. Energy transition is the first priority, and we are already here, whether as manufacturers of components for energy equipment, as developers of wind farms and photovoltaic parks, or as energy producers. We have the market's recognition for the work done in this area. We have to take advantage of this opportunity with all our strength and knowledge. At the same time, if we can keep this team strong and united, if we look at productivity as a primary goal and make Innovation part of our day-to-day, we have reasons to believe that the year 2022 will be very positive.

I wish you health and a happy 2022!



" For that, it is essential to have people available for constant learning, with a great capacity for adaptation and a permanent willingness to network and share a collective vision so that every day can be an active part of an evolutionary process.

"

READY AND AMBITIOUS

This decade will be absolutely defining for the transformation of the world as we know it, and it will define the future of the next generations. The Business & Sustainable Development Commission's Better Business Better World report published in 2017 makes a series of recommendations to business leaders and sets out a set of sustainable development goals.

These recommendations and objectives - which focus on several aspects, ranging from the major social concerns that distress the world today to the quality and dignity of work, innovation in industry and, of course, the great concern with environmental issues and the protection of life below water and on land, and also energy transition, the creation of communities that ensure sustainable production and consumption - will be the challenges of a mobilising agenda that must involve everyone, but which allocates a significant role to the business world.

It is in this context that companies must have the ability to integrate such objectives in their strategic plans, as well as to create development systems more and more concerned with the surrounding sustainability and cohesion and financial models capable of boosting, through innovation and technological development, economic growth and job creation.

These irreversible challenges, which like most things that happen nowadays, entered our daily lives at great speed, demand from companies clarity in strategic definition, firmness in decisions, speed in action and rigour in monitoring. For that, it is essential to have people available for Today, we have a Group with well-defined business areas, teams of enormous competence, clear objectives and, above all, self-sustainable.

constant learning, with a great capacity for adaptation and a permanent willingness to network and share a collective vision so that every day can be an active part of an evolutionary process.

The catalyst that this global model of sustainable growth brings us, as well as the strength of the results that we have recurrently achieved in recent years and the solidity of an organisation that prepares and adjusts itself every day to be better, more productive and flexible, makes Martifer Group look at this decade with great optimism. We look at all these challenges with great motivation and the conviction that in the various areas where we operate, we project to grow in a solid and structured way.

The immense opportunities that arise in the Energy area will deserve our most significant attention. In the renewable energy sector, taking advantage of our presence in the GreenH2Atlantic consortium, the energy and self-consumption communities, we will look at positioning ourselves as promoters of development in the Iberian energy market. We will also take advantage of our absolutely consolidated presence in geographies such as Poland and Romania, where there is great ambition in the goals established for energy transition, to leverage our willingness to grow in this area. But let us also look at the circular economy and industrial maintenance challenges and the connection and synergies that these sectors will have with the challenges I have just outlined.

The Naval sector, which only started 7 years ago in our Group, but has grown more than 2 digits per year, will deserve our most significant investment in the last 10 years. It will be more than 20M€ in the construction of a new dock, which will enable us, from 2023 on, to increase our ship repair capacity, positioning us as one of the most important shipyards in Europe in this area, and to make ship repair and construction activities more and more balanced in the relative weight of turnover, mitigating exposure and risk.

The Business Unit of Metallic Constructions – the result of a profound restructuring in its strategic positioning, which we did in the last few years, with a careful choice of markets, clients and products vs price, focusing on productivity, organisation of teams and the primacy of exporting production centres, has allowed us to look at the Group's identity activity with the same ambition as ever – will remain Martifer's core business.

Today, we have a Group with well-defined business areas, teams of enormous competence, clear objectives and, above all, self-sustainable. This clearly allows us to look to the future with redoubled hope and a different ability to project our growth in the coming years.

Today, Martifer is ready for the future.

We are ready and ambitious!

"

We look at all these challenges with great motivation and the conviction that in the various areas where we operate, we project to grow in a solid and structured way.

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ON THE ROAD TO ENERGY TRANSITION

Following the DNA that characterises Martifer Group so well, we had to be present on the Energy Transition agenda, not only because of the importance it has and represents but also because of the opportunity it provides (re-industrialisation of Europe) in terms of new energy challenges.

In this sense, and since February 2020, Martifer Renewables & Energy has been following and developing what we believe will be the future Green Hydrogen Market in Portugal, initially through the H2.Sines Consortium and currently through the already incorporated Consortium, GreenH2Atlantic, which in the first phase aims to develop and implement a 100 MW electrolyser in Sines, Portugal.

The GreenH2Atlantic is a project co-financed by the European Community through the Horizon 2020 - Green Deal Programme, which gives it the necessary credibility and sustainability for its development in the present and future. The business partners are also well-known in this area of development: Galp, EDP, Bondalti, Engie and Vestas. So, we believe and are confident that the project will achieve the objectives we have set and, without a doubt, that it will be one of the cornerstones of the hydrogen economy in Portugal (injection of 30% of H2 at the Sines Refinery and 70% in the natural gas network), and particularly in the Sines region.

It is also important to remember that in December 2015, at COP21 in Paris, an international agreement was signed that set the goal of maintaining global warming at 2 degrees Celsius compared to pre-industrial levels until the end of this century, preferably limiting it to 1.5 degrees Celsius. Therefore, the main instrument for achieving this goal is through the aforementioned Energy Transition, i.e. the transition from an energy matrix focused on fossil fuels to a matrix with low or reduced carbon emissions based on renewable energy sources.

These renewable sources, which have hydrogen as energy output, allow and promote the development of traditional renewable projects (solar parks and wind farms), which have been part of the Group's core business since 2006. Of the union between the now called traditional renewable energy sources and the new energy (energy transition), of which Hydrogen is part, arose the need and reason for the implementation of the new Renewables & Energy business unit. The past, of which we are very proud and which allows us to have the necessary know-how, is intended to join the future, the new energies and



the new developments that have always characterised Martifer Group.

We must not also forget, and therefore bear in mind, that much of this development was and is based on the National Hydrogen Strategy (Portugal 2020), launched in August 2020, which aims to contribute to the objective of national decarbonisation and the decarbonisation of the European Union as a whole, introducing incentives and stability for the energy sector and promoting the gradual introduction (network injection, mobility, industry, etc.) of green hydrogen as a sustainable pillar, integrated into a comprehensive transition strategy for a decarbonised economy.

The recognition of the importance of green hydrogen as an energy medium is that it is, among others, an energy carrier with high energy density, which allows it to be a solution for intensive industrial processes (e.g., refineries, paper mills, etc.), for the storage of energy produced through traditional renewable sources (solar and wind) and for the possibility of other renewable-based fuels, such as synthetic fuels for the transport sector (by sea, air and road).

The GreenH2Atlantic project materialises the beginning of energy transition in Portugal, promoting the conversion/ transition of the old Sines coal-fired power plant to an innovative green hydrogen production unit, in line with the national strategy and the European objectives on carbon neutrality.

The creation of a hydrogen 'cluster' in Sines, of which GreenH2Atlantic will be part and, in a way, will be the "founder", will contribute significantly to the sustainability objectives of the region and of Portugal, being an important contribution to the energy transition roadmap.

Of the union between the now called traditional renewable energy sources and the new energy (energy transition), of which Hydrogen is part, arose the need and reason for the implementation of the new Renewables & Energy business unit. The past, of which we are very proud and which allows us to have the necessary know-how, is intended to join the future, the new energies and the new developments that have always characterised Martifer Group.

RENEWABLE ENERGY: THE KEY TO A LOW-CARBON FUTURE

Reducing the carbon footprint is a global priority, and the world is not investing enough to meet future needs in the area of renewable energy.

The warning is given by the International Energy Agency. If the world does not triple the investment in renewable energy sources this decade, the proposed targets for energy transition will not be met. Another reason for accelerating investment in renewable energy is the stabilisation of energy prices in the market. Energy prices consecutively reach record levels, causing a crisis all over the world.

RENEWABLE ENERGY COMMUNITIES AND GROUP SELF-CONSUMPTION

Electricity production through Production Units for Self-consumption is regulated by Decree-Law no. 162/2019 of 25 October, which establishes the self-consumption of renewable energy, establishing the discipline of the production activity associated with the renewable energy installations for self-consumers, differentiating between individual self-consumers, group self-consumers and Renewable Energy Communities. In addition to consuming and producing renewable energy, self-consumers may share, store and sell surplus energy, and there may be more than one point of consumption connected to one or more renewable energy production units.

Individual self-consumers are consumers who produce renewable energy for their own consumption at their premises located in national territory and who can store or sell electricity of their own renewable origin, provided that, for non-domestic renewable energy self-consumers, those activities do not constitute their primary commercial or professional activity.

Group self-consumers correspond to a group of two or more self-consumers in physically close dwellings, industrial, agricultural or commercial units. Each self-consumer will be responsible for complying with legal responsibilities. **Renewable Energy Communities** are also a form of group self-consumption; however, they require participants to be part of a legal entity supported by a local renewable energy revenue concept to meet local needs. Thus, unlike group self-consumers, the Renewable Energy Community as a legal entity is responsible for complying with legal obligations.

New Street St

GROUP SELF-CONSUMERS

RENEWABLE ENERGY COMMUNITY

What are they?

- An organisation of two or more individual self-consumers without legal personality;

- Rules on access, energy sharing, cost-sharing and others are laid down in an internal regulation;

- The management of the system is carried out by the Regulatory Entity for Self-consumption, which may be a natural person or legal entity, a condominium or a third party, such as a service providing company;

- Each self-consumer produces and consumes, or the condominium produces and self-consumers consume, depending on who controls the unit or production units;

- Membership may or may not be open and voluntary.

What is it?

- A legal entity supported by a concept of local renewable energy income to meet local needs;

- Is based on open and voluntary participation, autonomous and controlled by shareholders or members who are located close to the renewable energy projects for self-consumption - which are owned and developed by this legal entity;

- Its shareholders or members are natural persons, SMEs or local authorities, including Municipalities;

- Regulation of access, energy sharing and cost-sharing, among others, are determined in an internal regulation or by the articles of association of the legal entity; - The Renewable Energy Community produces (ideally, the energy production units belong to it), and the Renewable Energy Community members consume. It is necessary to be a consumer to be a member of the Renewable Energy Community;

- The Renewable Energy Community has the right to produce, consume, store and sell renewable energy, in particular through contracts for the purchase of renewable electricity. The Renewable Energy Community also has the option of sharing the renewable energy produced by the production units among the members, without prejudice to the right of the Renewable Energy Community members to maintain their rights and obligations as consumers and to access all adequate energy markets, both directly and aggregated, in a non-discriminatory manner.

ADVANTAGES OF INTEGRATING A RENEWABLE ENERGY COMMUNITY

• Reduction of the energy invoice

- A reduction in energy costs is estimated (total savings are variable depending on the consumption profile of the entities and the location of the wind farm/solar park);

- Strengthening the environmental commitment through the consumption of green energy with a very positive impact in terms of marketing/valuation of the product;

- There is currently a strong discussion in the European Union on the application of taxes to companies on CO2 emissions.

• Growing trend towards imposing requirements for qualification in international tenders associated with the company's ecological footprint

• Company environmental certification processes

FOCUS RENEWABLE ENERGY COMMUNITIES AND SELF-CONSUMPTION

Cases of group self-consumption imply the constitution of a Group Self-consumption Management Entity. In the case of the Renewable Energy Communities, the legal entity itself assumes the responsibilities assigned to the Group Self-consumption Management Entity. These responsibilities are related to the practice of acts of the operational management of the current activity in order to minimise the impacts of self-consumption on the commercial relationship between suppliers and the use facilities that supply them. The Renewable Energy Community or the Group Self-consumption Management

Entity are responsible for informing the network operator of the list of clients who joined and quit self-consumption through the internal network management, if any, through the articulation with the Directorate-General for Geology and Energy Portal, through the connection with the Public Service Electricity Network and articulation with the respective operators, in particular as regards the sharing of production and its coefficients and the trade relationship to be adopted for the surplus. The sharing coefficients correspond to the percentage of the total energy produced in the Production Unit for Self-consumption to which each member of the Renewable Energy Community is entitled. If the consumption of the electrical installation is greater than the energy received from the Production Unit for Self-consumption, the remainder can be purchased from the grid; otherwise, the surplus can be sold to the grid. In the image below, an example of a grid-connected Production Unit for Self-consumption is illustrated, with 5 consumers with different energy consumption and different sharing coefficients.

SHARING COEFFICIENTS FOR THE RENEWABLE ENERGY COMMUNITY



PRODUCTION UNIT FOR SELF-CONSUMPTION IN OLIVEIRA DE FRADES



On the outskirts of the Group's headguarters, in the industrial area of Oliveira de Frades, the Production Unit for Self-consumption project is underway to supply power to the factories and offices. A wind tower (as you can see in the picture) will be installed, which is estimated to reach annual production of about 3,700 MWh. The capacity factor, which relates the total energy produced to the total energy that the turbine would produce if it operated at its rated maximum power, corresponds to 20.1%. The installation of this turbine will satisfy 33% of the annual consumption of all the facilities in Oliveira de Frades, with the possibility of selling the surplus to an energy trader.



Production of 3,700 MWh/year

Capacity factor 20.1%

It meets 33% of the annual consumption of the facilities

Surplus sold to an energy trader

RENEWABLE ENERGY COMMUNITY IN THE INDUSTRIAL AREA OF NEIVA



FOCUS | RENEWABLE ENERGY COMMUNITIES AND SELF-CONSUMPTION



The other ongoing project is the first Renewable Energy Community at an industrial level in the country. It will be located in the Industrial Area of Neiva, in Viana do Castelo. In October, a memorandum of understanding was signed between Martifer Renewables, three companies located in the Industrial Area of Neiva and the Municipality of Viana do Castelo. The Renewable Energy Community remains open to new members.

Martifer Renewables will be responsible for

the wind farm's development project, licensing, investment, construction and O&M. The energy produced in the Production Unit for Self-consumption shall be supplied to the members of the Renewable Energy Community proportionally to the participation coefficient of each one and upon payment of a monthly rent to Martifer Renewables. The Renewable Energy Community, as a legal entity, shall be responsible for ensuring compliance with the regulations defined in the articles of association of the legal person or in internal regulations.



The global renewable energy landscape is changing rapidly. With the international agreement signed at COP21 in Paris, the countries committed themselves to keep global warming at 2 degrees Celsius until the end of this century, or preferably limit it to 1.5 degrees Celsius, so the main way to achieve this goal is through renewable energies, i.e. the transition from an energy matrix focused on fossil fuels to a matrix with low or reduced carbon emissions, based on renewable energy generation sources. The opportunities and challenges ahead will be decisive for a more sustainable future.

REALITY FAR EXCEEDED MY EXPECTATIONS

I remember as if it were today when I was invited to join the Board of Directors of Martifer SGPS. The time had come to apply the famous gender quota law in publicly-traded companies. Although justified by my professional skills, the invitation did not pass without a (funny, I have to say) mention of this brand new, at that time, legal obligation.

I did not take long to accept the challenge. I was very curious about what it would be like in a construction company in a highly competitive sector, hard from all points of view, in - it is a fact - a predominantly male one.

Until then, my professional experience had been divided between litigation law, almost exclusively in international arbitration courts, and university teaching, of course in the legal area. I had already been a member of a board of directors in a Foundation (the Francisco Manuel dos Santos Foundation), which was not at all comparable to what was coming.

Although the contact with clients occurs daily, the experience of being in a company is entirely different. To understand its problems and challenges in direct speech, to contribute to its strategy, and to alert to risks and possible conflicts of interest; this is only possible when we are part of the company. It was a total novelty that I saw with great interest and, as I said, with tremendous curiosity.



MARIANA FRANÇA GOUVEIA Full Professor & Dean of NOVA School of Law

And reality far exceeded my expectations.

I found a powerful, capable, competent, full-force company with new projects. Highly sophisticated projects, until then unknown to me, with requests from so many different parts of the world. An industry that was turning around from a difficult period of crisis and resilience. I had the chance to witness its ability to overcome, its contagious energy.

In particular, I recall a Board Meeting in Viana do Castelo, which included a guided visit to the shipyard, to its docks. I witnessed, with amazement, the human machine creating enormous structures.

A large company with a great past and a bright future. A rare example of a globally competitive heavy industry that makes me proud of our country and makes me happy to have been able to participate in its history during a short time.

" In particular, I recall a Board Meeting in Viana do Castelo, which included a quided visit to the shipyard, to its docks. I witnessed. with amazement. the human machine creating enormous

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structures.

AARM 4.0 HIGH-STRENGTH STEELS IN METALWORKING 4.0

The AARM 4.0 project aims to develop metallic structures with high-strength low alloy (HSLA) steels, reinforcing research, technological development and innovation, continuing on the Industry 4.0 path at Martifer Construções. "ARM 4.0 - High-strength steels in metalworking 4.0' is a project in co-promotion led by Martifer Construções Metalomecânicas with the collaboration of the Faculty of Engineering of the University of Porto and co-financed by the Portugal 2020 programme, through the European Regional Development Fund. INEGI assumes the role of the subcontracted partner of the leading company.

This project aims to develop metallic structures with high-strength low alloy (HSLA) steels, reinforcing research, technological development and innovation, continuing on the Industry 4.0 path at Martifer Construções.

Recognising the importance of reinforcing research, technological development and innovation in its industrial production, Martifer Construções Metalomecânicas teamed up with two of the country's most important innovation and knowledge production centres (the Faculty of Engineering of the University of Porto - FEUP and INEGI), to implement, in its main manufacturing unit, digitisation solutions and management and control tools, to connect the areas of manufacturing, engineering, planning and process management, together with the study of the processing of HSLA steels.

In this project, Martifer will focus on the development of solutions for data acquisition in an industrial environment, tools for the digital record of welding traceability and retrofitting solutions. The ultimate goal is to increase the



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Increasing the level of technological maturity will allow the company to work with cutting and welding techniques in HSLA steels in a more efficient and precise way and to be prepared to respond to the growing market demand in projects with this type of steel, continuing the work of excellence in the production of projects with EXC4 execution classes. "

welding sector's productivity by 30% and the overall productivity by 25%. "Increasing the level of technological maturity will allow the company to work with cutting and welding techniques in HSLA steels in a more efficient and precise way and to be prepared to respond to the growing market demand in projects with this type of steel, continuing the work of excellence in the production of projects with EXC4 execution classes", says Diogo Figueiredo, the person responsible for the maintenance and process improvement department of Martifer Construções, and the project leader.

The technological progress that the use of these steels requires has clear competitive advantages but requires

greater effort in quality and precision requirements and stricter parameter control.



	PROJECT ACTIVITY/TASK	CO-PROMOTER							
A1	Investigation of the Industry 4.0 concept in the customised manufacture of large welded structures	Martifer							
	Definition of specifications and preliminary identification of solutions								
	Development of solutions to implement the Industry 4.0 concept in the identified equipment/processes								
	Testing and validation of the proposed solutions								
A2	Study of the processing of high-strength and low-alloy steels in the cutting and welding of metallic structures	FEUP							
	Identification of the requirements/specifications of high-strength steel processing (HSLA): cutting, joining and finishings								
	Generation of concepts for testing: geometries, experimental set-up, test plan, etc.								
	Experimental and/or numerical tests at laboratory and/or pre-industrial scale for the optimisation of process conditions and window								
	Mechanical/microstructural characterisation and analysis of results								
A3	Technical feasibility analysis and preparation of the industrial implementation plan	Martifer							
	Feasibility analysis and preparation of the implementation plan for the ''Industry 4.0'' concept								
	Feasibility analysis and preparation of the implementation plan for the production of welded structures in high-strength and low-alloy steels								
A4	Dissemination of the project and results								
	Promotion and dissemination of the project and results								

THE PROJECT IS DIVIDED INTO 4 MAIN ACTIVITIES

The AARM 4.0 project started in October 2020. Since then, the first two activities have already started: research on the Industry 4.0 concept (**AI**) and processing in the cutting and welding of high-strength steels (**A2**).

Regarding activity **AI** - Industry 4.0, the first task focused on the thorough and detailed collection of the current state of Martifer's processes, which will undergo interventions of improvement/digitisation processes.

Once the characterisation of the current situation of our processes is completed, solutions for the modernisation and implementation of the Industry 4.0 concept in Martifer's manufacturing area are developed, which can be divided into the following groups:

- Adaptation and update of traceability solutions and monitoring of manufacturing processes;

- Digitisation of manufacturing records made by hand;

- Creation of an i4.0 skills display in the welding area;

- Modernisation of maintenance and stock control tasks.

The research work has been done at Martifer and INEGI with several visits by the INEGI technicians to study real-time data acquisition solutions.

This partnership has already resulted in a Master's thesis by a FEUP student who worked, using artificial vision and AI (artificial intelligence) methodologies, on the recognition of welding symbols, which will serve as a basis for the digitisation of the traceability process.

Activity A2 is one of the core activities of the project, which seeks innovative solutions and integrative strategies for processing S690 QL steel, such as cutting, welding and finishings.

The adopted methodology consisted of studying the cutting and finishings of 30 and 60 m plates of S690 QL steel to evaluate the perpendicularity, roughness and tolerances in accordance with EN ISO 6507-1:2018 and ISO 9013:2017 standards, respectively. The quality of the cut surfaces was determined according to the EN 1090-2:2018 standard.

In order to understand the behaviour of the selected addition material, in the study phase, initial test specimens were made in \$355 |2 steel. These initial tests, carried out at Martifer Construções Metalomecânicas's headguarters, were used to evaluate the mechanical and metallographic behaviour of the selected addition material, allowing parameter adjustments and also avoiding the waste of S690 QL steel. \$355 |2 steel specimens were produced with preheating to a maximum temperature of 100°C, and specimens were also produced without preheating to understand the behaviour of the addition material and the base material.

Martifer performed the non-destructive Visual Testing (EN ISO 17637), Magnetic Particles Testing (EN ISO 17638) and Ultrasonic Testing (EN ISO 17640), and the joints were internally approved.

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Through this project, Martifer, as a leader in the metalomechanical construction sector, participates in one of the global trends in metalomechanical constructions, which is the use of these difficult processing materials, as they present great advantages in cost reduction and sustainability.

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Additionally, mechanical and metallographic tests were carried out in an accredited laboratory. Tensile testing (EN ISO 6892-1:2019 B), bend tests (EN ISO 5173:2010), impact tests (EN ISO 9016) and hardness tests (EN ISO 9015-1:2011 hardness specification and EN ISO 6507-1:2018 for hardness determination) allowed the evaluation of the mechanical behaviour of the produced joints and the comparison to be made between the specimens produced with and without preheating which, together with the macrographic tests, also allowed the evaluation of the sanity of the welded joints. The joints were approved, and a Pre-specification of Welding Procedure was produced, which served as a basis for the following S690 QL steel specimens.

November marked the start of welding the test specimens at the OF2 plant in Oliveira de Frades, using 30 and 60 mm thick S690 QL plates purchased exclusively for the project.

The Welding Direction, the Manufacturing Direction and Bureau Veritas have welded 21 specimens of various thicknesses, with different processes and positions, in order to study preheating and welding parameters.

The specimens were sent to the Faculty of Engineering of the University of Porto (FEUP), to Bureau Veritas (BV) and to CATIM - Technological Centre for the Metalworking Industry for destructive and non-destructive testing to evaluate the quality of the welded joint and validate the initial assumptions. Through this project, Martifer, as a leader in the metalomechanical construction sector, participates in one of the global trends in metalomechanical constructions, which is the use of these difficult processing materials, as they present great advantages in cost reduction and sustainability. INTERVIEW | PEDRO MOREIRA



AFTER 8 YEARS, THAT IS, 25 % OF MARTIFER'S HISTORY, IT IS GRATIFYING TO SEE THAT THE GROUP IS STRONG, DYNAMIC AND PREPARED FOR THE FUTURE

Pedro Moreira has been Martifer Group's CFO since 2015. He has 22 years of experience in the construction sector, with extensive experience in international financial coordination.founded on the work carried out in various markets in Europe. In this interview, he shows us his vision and the Group's strategy towards the unpredictability and demands of today's world.

INTERVIEW PEDRO MOREIRA, CFO OF MARTIFER GROUP

MNEWS | You arrived at Martifer Group in 2014. How do you see Martifer's evolution between the one you found almost 8 years ago and the one we have today?

PEDRO MOREIRA | It is public knowledge that in 2014 Martifer Group was in a delicate situation: between 2010 and 2014, the Group had accumulated significant losses, with a consequent erosion of equity, the treasury situation was weak, and operational profitability was insufficient to face the large financial liabilities.

Given the above scenario, the priority was to define a Strategic Plan that would ensure the Group's subsistence – indeed, that was the priority of the entire term of office 2015-2017.

The crucial pillar of that Strategic Plan was to secure an agreement with financial creditors, which allowed:

- to inject liquidity (known as 'new money') to regularise the situation with suppliers and ensure the normalisation of the supply chain for the projects;

- to ensure a bank guarantee ceiling that

would allow the resumption of client contracts;

- to adequate the maturity of the inflows of the operational activity and investment (divestment) to the outflows of the financing activity;

- to standardise the amortisation profile of the financial debt, to significantly reduce the all-in financing cost and to significantly increase the average maturity of the financial debt;

- to establish timings and adequate conditions for the sale of a set of shareholdings and non-core assets in order to drastically reduce the Group's financial debt.

After a very complex negotiation process involving more than a dozen financial institutions, we managed to gain the confidence of the financial creditors, with interim support at the end of 2014 and, subsequently, with the signing of the restructuring agreements in December 2015.

In parallel, the strategic plan contemplated other actions that I consider to have been decisive: a new organisational



At a commercial level, we began to give priority to exports, and we defined a clear strategic positioning for each business unit that combined basic variables of the marketing mix: product, price, place, promotion with value-added markets and target clients. "



ENTREVISTA | PEDRO MOREIRA

model that clearly defined the centralised back-office structures, process-oriented and transversal to all the business units and business-oriented front office structures, as well as the definition of guidelines and procedures for project production planning and control, the corporate simplification programme, the reduction of External Services and Supplies and the standardisation of procedures.

The period 2014-2017 was, therefore, an extremely difficult period at a personal and professional level, which required a huge effort, dedication, and resilience. Personally, I will always remember those days and all those in Martifer and outside it who helped to overcome that phase.

This followed the period 2018-2020, with the definition of a new governance model in 2018 and the appointment of the current executive committee, which catapulted the Group to levels of operational performance of excellence. In fact, the financial situation had improved in the period 2015-2017, but there was still much to be done to improve operational profitability.

It was in the period 2018-2020 that the priority became productivity - a daily focus on planning that is the key to operational efficiency. It is certainly no accident that we have achieved a huge increase in productivity in the Group in recent years, visible in the gross value added (GVA) per capita, which is now the highest in its history.

At a commercial level, we began to give priority to exports, and we defined a clear strategic positioning for each business unit that combined basic variables of the marketing mix: product, price, place, promotion with value-added markets and target clients. On the other hand, we introduced a rigorous process for assessing and scrutinising technical, financial and legal risks at the pre-contractual stage. And, probably the most important thing was the clear reinforcement of the organisational culture that has continued consistently in the Group: today, there is an emotional commitment, a spirit of mutual help and excel-

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It is for all these reasons that I have no doubt that Martifer is probably the ultimate exponent of turnaround processes in Portugal, and a case study in various forums, particularly in the academic world.

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In the Energy sector, we want to grow gradually and consistently by increasing the relative weight of this business unit in the Group.

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lent cohesion in the Group's teams. After 8 years, that is, 25% of Martifer's history, it is gratifying to see that the Group is strong, dynamic and prepared for the future; the improvement in all financial outputs from financial debt to EBITDA and GVA per capita are only the most visible face of this so complex and difficult path that the Group has followed in these years.

It is for all these reasons that I have no doubt that Martifer is probably the ultimate exponent of turnaround processes in Portugal, and a case study in various forums, particularly in the academic world.

MN | In May 2021, the management team was re-elected for the three-year term 2021-2023. What are the main objectives for this new term of office?

PM | The strategic update for the period 2021-2023 projects the future based on the pillars that sustained the most recent success but with renewed ambition for sustained and sustainable growth.

For that, we will maintain our goal of strengthening the Group's export profile in metallic constructions and in the naval industry; in the latter, we want to significantly increase the weight of the repair segment, boosting the investment in the new dock in the Viana do Castelo shipyard.

In the Energy sector, we want to grow gradually and consistently by increasing the relative weight of this business unit in the Group. Consequently, there will be a reinforcement in Industrial Maintenance, in wind and solar projects, looking for adjacent, credible and scrutinisable opportunities such as the hydrogen consortium, GreenH2Atlantic in which we participate with Galp, EDP, Engie, Bondalti and Vestas.

We are attentive to the challenges of energy transition, the decarbonisation goals of the economy, of "waste to power", innovation and sustainability that are clear in ESG - environmental, social, and governance - targets.

In fact, the Group can currently say that it has "net zero emissions of CO2" since it produces more renewable energy than it consumes - and this fact is very relevant not only in terms of environmental sustainability but also in strategic terms since it constitutes natural hedging against the volatility of energy prices.

At the same time, in Portugal, we are promoting renewable projects for self-consumption and are pioneers in industrial renewable energy communities.

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In fact, the Group can currently say that it has "net zero emissions of CO2" since it produces more renewable energy than it consumes...

ENTREVISTA | PEDRO MOREIRA

MN | Despite the climate of some economic instability that we are still experiencing globally, the Group has managed to get around the situation and be in a counter-cycle. What are the factors that have made this difference?

PM | We believe that "storms are prepared in calm times": that is what we have done, and we believe that that was what has allowed the Group, up until now, to show enormous resilience to the harmful effects of the pandemic.

But it is a continuous task, and the variables are dynamic - so, we have to be very attentive to the price increase of raw materials and energy; we will have to live with inflation and anticipate a possible increase in interest rates - those who have debt under control, and preserve the operational cash flow will be better prepared for these risks.

Martifer Group now benefits from a general recognition of the stakeholders:

- clients have praised projects such as ITER, the Geneva Airport and the Ocean Vessels, just to give a few examples. Our portfolio includes recurrent clients of unquestionable reputation such as Vinci, Mystic, Baleària, Galp, Siemens, Ikea and Finerge; - suppliers who want to work with Martifer and many with whom we have created consistent and prolonged partnerships;

- the banking sector, which recognises the remarkable progress made in reducing financial debt and increasing operating margins, which has enabled the Group to realign in benchmarking and with market peers;

- the Group's more than ten thousand shareholders who recognise the upward trajectory and with repercussions on the market capitalisation that has quadrupled since 2014; and, of course, the reference shareholders, who have renewed their confidence in the executive committee for the 2021-2023 term of office;

- and the employees, who have an excellent work environment based on mutual trust on a coherent, credible and stable path.

MN | People are a determining factor in the Group's success.Would you say that Martifer is a good place to work at? Why?

PM | Human capital is unequivocally Martifer's greatest asset and the most determinant factor in the Group's success.

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On the other hand, we have, whenever possible, favoured and given opportunities to our staff for internal promotion - we have several successful examples of this in recent years -fostering a culture of meritocracy.

It was not accidentally that the 2018-2020 strategic plan defined the strengthening of organisational culture as one of the three strategic pillars.

We feel that employees have an excellent work environment based on mutual trust, on a coherent, credible and stable path. At Martifer, the "us" culture is, and will always be, more important than the "me" one.

Through the "Academy of Competences," we have promoted specific training in all positions. As an example, in recent years, we have had various initiatives with renowned entities and excellent feedback from employees: in the commercial and value selling area, in procurement, in finance for non-finance positions and, more recently, a seminar dedicated to negotiation and contract management.

We created an annual "Atreve-te" traineeship programme with integration routines, allowing us to detect and fix new talent.

On the other hand, we have, whenever possible, favoured and given opportunities to our staff for internal promotion - we have several successful examples of this in recent years -fostering a culture of meritocracy.

For all these reasons, I believe that Martifer is an excellent organisation for learning, progressing and developing careers.

MN | The pandemic has in some ways revolutionised the world's view of work with the new concepts of telework, work-life balance, and even the appearance of remote work. How do you see these new trends, and what impact do you see them having on a Group with Martifer's characteristics?

PM | I believe that the pandemic has accelerated digital transformation. Robotics, digitisation and dematerialisation of processes are realities that companies were already living with, but to which they had to adapt their pace.

A group such as Martifer had to be attentive to these changes. And, we have good examples of this, such as the High Resistance Steel Project in Metalomechanics, to optimise the use of high strength and low alloy steel and the implementation of the industry 4.0 concept in the OF2 industrial unit.

We have tried to adapt the Group to the concept of telework, without forgetting the specificity of the imminently industrial sector in which it operates, and that personal contact is decisive in the processes of integration, learning, and from the social perspective and in reinforcing the organisational culture.

I believe that it is a dynamic reality because we have felt that, for many employees, the separation of the physical workspaces from their private sphere is relevant for their work-life balance.

With regard to the concept of work-life balance, I think we have been very clear: we want a Group with productivity because this is the only way to improve salary conditions, but this does not mean working more hours, it means organising work better and adding value.

We have sought to promote the best possible conditions for employees' professional and personal life to be concil"

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Managing a Group of Martifer's size requires credibility, stability and strategic clarity, which is widespread in the organisation today; proof of this is the excellence of our top management, which is then reflected in the following levels.

iatory and balanced: for example, our equality plan contemplates very specific measures such as taking time off for prenatal appointments, giving and improving office spaces for breastfeeding and protocols with external services.

MN | If you had to identify the strengths of the management team, what would you tell us?

PM | Since we took on the executive leadership of the Group, we have sought, on a daily basis, to lead by example, to promote an organisational culture and disseminate the values of the organisation, such as rigour, commitment and above all, something that is of practical knowledge, but which is sometimes rare in organisations: common sense.

In the executive committee, there is a profile of competencies that complement each other, resulting in the whole being greater than the sum of its parts. I believe that the fact that the entire executive team has vast international experience is an enormous asset and allows a global vision and rationality in decision-making.

Managing a Group of Martifer's size requires credibility, stability and strategic clarity, which is widespread in the organisation today; proof of this is the excellence of our top management, which is then reflected in the following levels.

That is why Martifer is today a brand externally recognised for excellence, reputation and trust.

MN | Finally, what message would you like to leave to the whole team at the beginning of this year?

PM | The adverse pandemic context has been a huge challenge and has added volatility and uncertainty.

As I said before, we have to be very vigilant and anticipate some events: it is a continuous work, and the variables are dynamic, but those who have debt under control and preserve the operational cash flow will be more prepared for these risks.

We must remain optimistic because the goals achieved in the recent past allow us to face the future with renewed ambition and determination.

Therefore I repeat, by keeping the focus, the consistency, the coherence and continuing to work as a team, with rigour and commitment, we will be building an increasingly robust Martifer.

PROFILE

PEDRO MOREIRA

45 YEARS OLD

CFO MARTIFER GROUP

With a degree in Economics from the Faculty of Economics of the University of Porto, Pedro Moreira began his professional career at Mota-Engil in 2000, in the Group's area of international financial coordination, having had the opportunity to get to know all of Mota-Engil's international operations.

Subsequently, he worked outside Portugal for about 7 years in interpolated periods in Poland and Hungary, experiences he considers to have been very enriching, personally and professionally. In Hungary, he held an administration position at Mota-Engil Central Europe, being responsible for Real Estate, PPP/ PFI and M&A. When he returned to Portugal at the beginning of 2014, he was invited for the Martifer Group challenge. He has been the CFO and a member of the Board of Directors (and the Executive Board) since January 2015.

In his free time, he enjoys sports (particularly football, which is a long-lasting passion, and he was an official football player), travelling with family, strolling by the sea, listening to music and reading. His favourite writers are Daniel Silva, an American with Azorean ascenders, Ken Follett with the "The Century" trilogy and Miguel Sousa Tavares, highlighting "Equador."

Paris is his international choice, and Rio de Janeiro and New York are cities he particularly liked, but his cities of choice are in Portugal: Porto, where he always studied and where he has many friends, and Póvoa de Varzim due to his family ties, his childhood and due to liking the sea and the winter sun. Indeed, holidays are synonymous with sea and beach, and he affirms that Portugal has great choices from the North to the South.

He assumes integrity as his main quality, and although he does not have a leadership reference, he states that people the people who arouse his interest have these characteristics: authenticity, integrity, magnanimity and intellectually curiosity.

Carlos Costa Board Member

These last two years have shown us that the world is changing. A pandemic and growing concerns about climate change are leading people to significantly change how they live, consume, and also build. Directives, Regulations and Legislation are expected to force us to be increasingly sustainable, increasingly "green" to reduce the economy's carbon footprint. We have the challenge of thinking about Circular Economy in all our activities and preparing action plans to move on to designs that incorporate more sustainable products. The construction industry accounts for 36% of CO2 emissions worldwide and 33% of all waste produced. Thus, the trend will be to evolve into a construction business with different products, increasingly modular and prefabricated, with reusable materials focusing on the high energy efficiency of buildings. By 2030, it will be necessary

to reduce carbon emissions by 55%, and in the next 8 years, much will change in the way we build. This past year has also been a year of internal change. The change was clearly noted in what the markets of England and Saudi Arabia have represented for Martifer in the recent past, for closer markets such as France and Spain. There is no doubt that the change in policies such as BREXIT in the United Kingdom and the introduction of various import barriers in Saudi Arabia were important factors in this change. Amid a pandemic, we completed significant projects for Martifer. The structure of the Gare de Mons in Belgium, the façade of the Stories office building in Paris, the modular facade of the London Dock residential building in London, and the structures for Siemens Gamesa's wind tower blades factory in Le Havre in northern France are good examples.

Besides these, we did the first project in the lvory Coast, the roof of a stadium in Bouaké, and we are now moving on to the second stadium in Abidjan. This project and the extension of the Marseille Airport are the most considerable references in metallic structures in our order book until now, complemented with a comfortable number of wind towers for 3 different clients. The Infinity Tower in Lisbon is a landmark in the Lisbon skyline and counts on Martifer to do its façade. With several awarded projects, the Madrid market increases its importance in the 2022 order book in the façades sector. Despite starting off on the right foot, 2022 presents potential challenges: the current raw materials and logistics crisis will certainly be here to stay, leading to constant cost increases. The ongoing adaptation of the Romanian factory allows us to have a manufacturing hub that

will give us the ability to respond to the French and Central European markets, contributing to the strategy of betting on these countries.

"It's not the strongest that survives, nor the smartest, but the one that best adapts to change." Charles Darwin

LISBON, PORTUGAL INFINITY TOWER, A PANORAMIC VIEW OVER LISBON

The Infinity Tower is a residential building with 26 floors above ground and 2 floors below ground. It is 80 metres high, making it one of the tallest buildings in Lisbon.

In this project, we highlight the acoustic requirement - taking into account that the Infinity Tower is located near the Sintra railway line/ Sete Rios train station and the Lisbon Airport air corridor. This forced Martifer Metallic Constructions to develop and apply solutions using materials with low sound transmission coefficients in all the construction work finishes (the use of galvanised plates, rock wool, and acoustic mesh, among others), as well as to produce mullions filled with sand (adequately protected). Mota-Engil is the client, and Martifer is responsible for executing 13,000 sqm of traditional façade. The works also include the supply and installation of 956 doors in an aluminium system specific to the project, 10,561 sqm of vision glass, 720 sqm of silk-screen printed flat glass, 812 sqm of curved glass, and 930 sqm of sandwich panel.

Vanguard Properties is the owner, and it entrusted Saraiva + Associados with the architecture of this luxury residential building. Located in Campolide, it offers a panoramic view over the city, namely Monsanto, Lisbon and the Tagus River. Its cloverleaf shape branches off the central nucleus into three arms which extend widely over the city. Each arm has its typological organisation, which results from the system's hierarchy of views and solar exposure.

Martifer started the assembly of the 13,000 sqm of façade awarded in July 2021, and at the moment, more than 50% of the façade has been concluded. After the completion, protection and inspection of 15 floors with the client, Martifer has the demanding planning to complete, protect and inspect with the client one floor every 10 days. The preparation and manufacturing work contributed a lot to this planning.

CURVED GLASS VS STRAIGHT GLASS

The curved glass, which covers the corners of the tower, is one of the features of this project that required additional measures. The risk of the difference in shades in the curved and straight glass required thoroughness to ensure that the raw material, covers and interlayers, as well as all other glass specifications are precisely the same. The visual mockup installed in Oliveira de Frades was essential for this process and to establish the assembly procedure.

BALANCE BEAM ALLOWS ASSEMBLY

The assembly of the curved glass next to structural pillars and/or interior walls in the stairwell area would be impossible to carry out with the standard equipment due to the size of the balconies, the inside constraints, and the glass's weight. Martifer developed a solution with a balance beam in counterweight so that the glass is mounted from the outside with the aid of tower cranes, to overcome this issue.

MADRID, SPAIN MARTIFER AT SANTIAGO BERNABÉU - SOUTH AND WEST ROOF

After successfully completing a lifesize prototype of the roof, Martifer Metallic Constructions won the contract to execute and assemble 2,200 modules for the south and west roof of the future Santiago Bernabéu stadium in Madrid.

The modules in blade form are composed of a structure of aluminium profiles anchored to the Kalzip roof, which in turn support the stainless steel sheet cladding - the final metallic look designed by the architect.

Besides the works on the roof, Martifer is responsible for the internal ring in honeycomb panels and the cladding in composite panels on the Skywalk.

The project brings together the most prestigious entities in the Spanish construction sector: our client is FCC, the façade consultant is ARUP, and the project manager is BOVIS. AYESA and ENAR are in charge of the construction management. The architecture project was done by GMP, with whom we worked on the Amazon Arena in Brazil, with local support from L35 and Ribas & Ribas.

MADRID, SPAIN THE FUTURE L'ORÉAL HEADQUARTERS WITH A MARTIFER FAÇADE

Following the great work carried out in the Helios project, Therus awarded Martifer Metallic Constructions the execution of the façades of L'Oréal's future head office.

The head of the architecture project is the prestigious Fenwick Iribarren, with the assistance of ARUP, specialising in façades consultancy. The final client of the project is Acciona, one of the leading Spanish construction companies.

Martifer's intervention consists of the manufacture and assembly of 6,500 sqm of different types of stick curtain wall, 500 sqm of windows, about 8,000 sqm of cladding in honeycomb A2 panel, stone, ETICS (External Thermal Insulation Composite Systems) and other metallic elements, 600 m of glass railings and also smoke removal windows, Saint Andrew crosses and lifelines.

The use of honeycomb panel (a new cladding product as an alternative to composite panel) has brought new challenges to the preparation and modelling, manufacturing and assembly teams. Still, this material has also brought many advantages, such as being lighter and more ecological. It is 100% recyclable, allowing excellent planimetry, and there is less impact of profiles on the assembly system.

The project is running smoothly. Most of the western façade already has the aluminium and glass installed. The assembly of the silk-screen printed glass on the south façade is also underway, and the shipment and start of the assembly of the honeycomb panels are scheduled for the coming weeks.

MADRID, SPAIN AM GROWTH, AN ICON OF THE AZCA FINANCIAL DISTRICT

Martifer Metallic Constructions completed the rehabilitation and expansion of the AM Growth building in central Madrid (Spain) for Mutua Madrileña. The building brought together aluminium, glass and steel, and it is an icon in the AZCA financial district due to its unique architecture.

The architecture office responsible for the project is Arquimania of Ruíz Barbarín, the one responsible for Torre 30 (Ilunion), in which Martifer also participated. The façade/structure consultants are Ferrés Arquitectos y Consultores and Valladares Ingeniería.

Martifer was responsible for supplying and assembling 3,000 sqm of curtain façade with curved glass edges, metallic coating, and 140 tonnes of steel for a metallic exostructure.

This structure will support the new slabs of the upper floors and will cross the façade in the opaque area - its rigorous execution is therefore essential for the dynamics of the building.

The ability of Martifer Metallic Constructions to perform these two distinct types of work was one of the distinguishing features valued by the client Empty, with whom we have already worked at Puerta del Sol I.

MADRID, SPAIN JUAN HURTADO DE MENDOZA 4 WITH LARGE FORMAT FAÇADES

Martifer Metallic Constructions was awarded by Fernandez Molina the manufacture and assembly of 3,000 sqm of façade for the Juan Hurtado de Mendoza (JHM4) office building.

The project consists in the rehabilitation of the office building, with the architectural project by Ortiz y León and façade consultancy by ENAR.

The project's uniqueness lies in the large format, flat and curved façades, which include wood, steel and aluminium profiles. Martifer is also responsible for executing a large skylight in the shape of a saw blade, composed of 12-metre wooden beams and stepping glass.

It is a new opportunity to demonstrate

Martifer's capacity to develop new technical solutions, composed of different materials and execute them according to the architect's demanding quality requirements.The project is intended to be LEED Platinum and WELL certified.

ABIDIAN, IVORY COAST RENOVATION OF THE FÉLIX HOUPHOUËT BOIGNY STADIUM

Mota-Engil awarded Martifer Metallic Constructions the design, manufacture, transport and assembly of the metallic structure of the Félix Houphouët Boigny stadium.

Félix Houphouët Boigny is an iconic stadium in the Ivory Coast, where its national football team usually plays and where the opening ceremony and the final match of the 2023 Africa Cup of Nations are expected to be held. It is located on a hillside in one of the noblest areas of Abidjan – the Plateau – next to one of the areas where the Atlantic enters Abidjan.

Félix Houphouët Boigny was the first

President of the Ivory Coast in 1960, when the country became independent from France. The most important infrastructures in the Ivory Coast inherit his name, such as the airport and this stadium.

The main objective of this stadium renovation project is to increase the stadium's capacity to 30,000 spectators.

Martifer will develop the roof structure, independent from the concrete structure, which will be covered with screens. The 40 beams - a metal structure console - will be supported by sets of columns and rods in the stadium's exterior. The beams will be locked by sets of 18-metre rope arches coated with canvas. The façades will also consist of micro-perforated panels connected to the exterior metal rods.

MONS, BELGIUM

GARE DE MONS, A UNIQUE AND VERY DEMANDING PROJECT





To arrive at Gare de Mons is to take another trip. In this station, which was inaugurated in 1841 and is now in the final stages of a remodelling process designed by the famous Santiago Calatrava, you can feel the magnitude of great projects with the assembly of a breathtaking structure. Under construction since July 2020, the project is currently in the phase of Architectural Carters assembly and painting works.

In Mons, the weather is a challenge for any construction project. Harsh winters and four seasons in a single day interrupt painting tasks, make welding difficult, slow the pace down and lead to daily changes, which require a great deal of adaptability and flexibility. Tight deadlines are the other factor that increases the challenge of this project.

Despite these challenges, and the constraints inherent to the pandemic situation we are still living, the project is progressing at a good pace, and its completion is scheduled for the first half of 2022. We will be proud to see this work finished, which will allow many travellers to take off from here, as has happened in the last 180 years.



MARSEILLE, FRANCE

RENOVATION OF THE MARSEILLE-PROVENCE AIRPORT







The Vinci-Martifer consortium won the project to build and renovate the Marseille-Provence Airport, which includes building a new building and the partial renovation of Terminal 1.

Martifer Metallic Constructions is responsible for the execution project, supply, manufacture and assembly of about 4,900 tonnes of metallic structure and 34,000 sqm of façades, skylights and coatings.

The Marseille-Provence Airport, inaugurated on 22 October 1922, is one of the most important airports in France.

Foster+Partners is in charge of the architectural project of its extension and renovation. It stated that "Our goal is to create a building that will reconnect all parts of the existing buildings, simplifying the flow of people and creating a new welcome gate for the region."

The creation of a new "coeur" ('heart' in English), which rationalises the arrival and departure sequences in a single building, takes the form of a 20 metre-high glass corridor with a continuous grid of glass skylights.

Martifer is proud of its construction commitment and expects to deliver another reference project to the client in three years time.

PARIS, FRANCE

GARE DE LYON PART DIEU BEGINS ON-SITE ASSEMBLY







Martifer Metallic Constructions is beginning the on-site assembly of the Gare de Lyon Part Dieu project. Having as client SNCF (Société Nationale des Chemins de fer Français) and architecture by AREP, this project involves the construction of the North Hall, the South Hall and the Béraudiér Gallery.

Martifer's intervention in this project will be divided into two phases. The first phase is making the PRO studies with AREP. The second phase is the execution project and the construction work, first with the North Hall and then the South Hall and the Béraudiér Gallery.

Martifer is responsible for executing the 1,700 t of the metallic structure project. The work includes the supply, manufacture and painting of the entire main and secondary structure of the new Hall and the Béraudiér Gallery.

The portico structure in question involves tubular pillars and roof beams made of plates, with the application of intumescent paint of R30, R90 and R120 minutes at the factory. Inside the building, two metallic floors will be made with the application of collaborating metal sheets. Mullions and transoms that will support the respective glass façades will also be applied on the façades. The entire secondary structure that will support the skylights and the automatic opening vent of the building will be built on the roof.

Hall Nord is scheduled to start assembly works in January 2022, Blocks 3&4 in mid-2022 and Blocks 1&2 in March 2023. The conclusion of all the works relating to Martifer's steel structure contract is planned for the end of October 2023.

PARIS, FRANCE

GARE NOISY - CHAMPS, A WORK OF ART



The Noisy – Champs station project is a creation by architect Jean-Marie Duthilleul of Agence d'architectes-urbanistes Duthilleul. Noisy – Champs is part of the Grand Paris Express which is the most significant transport project under development in Europe. It is an automated transit network that will improve multimodal transportation in the 'Grand Paris' region. The project is backed up by an investment of 156 million euros and will bring to life one of the most innovative and emblematic structures in the Ile-de-France region.

The project is divided into two distinct phases. One phase is situated at the station's lower levels, called infrastructures, where the metro Line 15 South and the RER A Line are located. Martifer Metallic Constructions will be responsible for all the metallic structures of the access zones, such as: platforms, lifts, stairways and access ramps, totalling an assembled steel weight of approximately 1,000 tons. The second phase of the project is the most remarkable structure. A work of art called the "Dôme", which will have a double helix roof, where metallic and wooden structures will join together to create the unified roof. Each helix starts in two locations (Noisy-le-Grand and Champs-sur-Marne), joining a vertex at the top of the Dôme's roof - the Gloriette. Concerning the metallic structure, the roof will be 101×62 metres, and it will be 21 metres high, representing approximately 450 tons of assembled steel. The helix will be supported by 12 arborescent columns with a tree trunk design.

Martifer's studies which began in September 2020 are coming to an end. During the study phase, a prototype of a part of the Dôme's roof was made with metallic structure and wooden beams, as well as an arborescent column. These structures were assembled in August 2021. The production started in January 2022 with the Infrastructure Zone structures, with the aim of starting assembly in March 2022.

This project stands out mainly because of the conceptual complexity of the helical structure of the Dôme roof, with several interfaces, façades, coatings, especially wood. The mixed-use of roof materials, steel and wood, will be a challenge due to the difficulty in matching the different behaviours of the materials and ensure the complexity of the project's architectural lines.

This project is also unique because the station is in the route of the RER A Line, one of the most important and used in Europe, and is always in operation. The particularity of being above a RER A Line implies strict procedures on collective and individual safety.

SIEMENS GAMESA - LE HAVRE, THE LARGEST INDUSTRIAL COMPLEX DEDICATED TO RENEWABLE ENERGY

Martifer Metallic Constructions finished the works in the Le Havre project.

Having as client GTM Normandie-Centre, a subsidiary of VINCI Construction France, Martifer, in consortium with Blocotelha, was responsible for executing the metallic structure for the construction of the blades and wind tower factory for Siemens Gamesa Renewable Energy.

Martifer is responsible for the manufacture and assembly of buildings B1 - Nacelle Area (1,705 t of metallic structure), B1 - Warehouse (925.4 t of metallic structure) and B2 - Post-treatment (1,055 t of metallic structure).

The Le Havre Projet is France's largest industrial complex dedicated to renewable energy, and it stands out due to its magnitude. It is intended to meet the recent offshore wind energy production projects, hence its privileged location in the port of Le Havre. It is located next to an EDF coal-fired thermal power plant, which was shut down during the construction of the Siemens industrial plant in March 2021. This was in line with France's commitment to the energy transition of the country, Europe and the world.

Martifer's intervention ended in October 2021. The resolution of some reserves is planned for the first quarter of 2022, by agreement with our client GTM - Normandie Centre. Martifer's commitment and capacity to face adversities such as tight deadlines, difficult on-site conditions and the global pandemic situation should be highlighted. The 3,500 t of steel assembly in just 6 months made us very proud.







ANSE DU PORTIER, MONACO MARETERRA, BOLD AND INNOVATIVE





Mareterra is currently one of the boldest and most innovative projects in Europe. This complex is being built in the Monaco bay, on an extension into the sea that has allowed the Principality to gain 6 hectares of territory. It is an extension of the current coastline, from Forum Grimaldi to the Formula I Grand Prix tunnel. It will transform the Principality. Through a curved coastline stretching 35 metres, the development features a public park, a new harbour, underground public parking, offices, shops and housing areas.

Conceptually, the northern extension belongs to the land with architectural design by Architects VPA, and the southern extension belongs to the sea with architectural design by Renzo Piano Building Workshop. Martifer's intervention is in the sea extension, in the Renzo buildings, the most emblematic of the project. Mareterra is a pedestrian area with a luxurious park, a small port, seafront seating, an underground car park, and has a large residential and commercial offer. The project was designed to integrate the existing coastline and offer Monegasques a range of new opportunities related to leisure and culture.

Martifer is responsible for the manufacture, supply and assembly of 820 t of metallic structure, the welded reconstituted profiles of the balconies and the metallic console structure coupled with reinforced concrete. It is also our responsibility to supply and assemble the emergency ladders to access the buildings. Our client is Engeco, and the owner is J. B. Pastor, both companies are from Monaco. Renzo looks like a ship in a shipyard. The

tilted poles that support it and allow unobstructed views on the ground floor resemble the cradle of a ship in a dry dock.



The protrusions at the ends resemble the bow and stern, and the lower part of the building with rounded shapes resembles the hull. With 18 floors, it has 47 luxury flats and is composed of two buildings, called QPC1 and QPC2, with a mixed concrete and steel structure.

Martifer started the application of the first pieces (doigts de balcons) at the beginning of November 2021, thus enabling the progression of the reinforced concrete works. The work is progressing at a good pace, and the reinforcement of the workforce is expected at the beginning of 2022 with more work areas.

MIDLAND, UNITED KINGDOM MIDLAND HOSPITAL WITH A NEW COATING







In July 2020, to continue the work at the Midland Hospital, Martifer Metallic Constructions signed a new contract with the company Balfour Beatty, the project's general contractor, to carry out the remaining works.

Since then, several repairs, installation of flashings, replacement of glass, installation of doors, assembly of steel canopies have been carried out on site. And 67 modules were installed until July 2021.

In August, the wood façade-finished panels started being replaced by the new terracotta-finished solution. A total of 1,528 panels will be replaced, work that is scheduled to take place until the end of the first quarter of 2022. This new coating consists of terracotta-coated aluminium panels totalling 3,900 sqm. Until now, 1,200 panels have been replaced, and 11,500 pieces of terracotta have been installed. The substitution of wood for terracotta arose due to the fire in the Grenfell tower and the change in the law on building coatings.

LIVERPOOL, UNITED KINGDOM

ROYAL LIVERPOOL UNIVERSITY, THE CITY'S LEADING HOSPITAL



In May 2020, Martifer Metallic Constructions returned to work at the Royal Liverpool University Hospital in Liverpool. The client is HNS Trust. This project includes constructing a new hospital building in the city centre to replace the existing hospital with new and improved conditions to serve the Liverpool population. We recall that, following the great fire in the Grenfell Tower in 2017, construction regulations in the UK changed, and when returning to this project, it was necessary to meet all the new requirements.

In this second construction phase of the project, to improve the building's thermal performance and comply with the fire performance regulation currently in





force in the United Kingdom, Martifer is responsible for the supply and substitution of 8,000 sqm of the initially installed composite panels with new aluminium panels, including ceilings and windowsills, the supply and application of thermal insulation in 1,200 sqm of Shadow Boxes, the structural re-evaluation of 2,400 moorings of the model façade, the supply and installation of 2,550 linear metres of fire-break barriers and the conclusion of the works for the installation of the canopy, including the supply of 110 sqm of glass.

The 150-year-old Royal Liverpool University Hospital is Liverpool's most important hospital. It will include 646 beds, 18 amphitheatres and 23 clinical units and wards.

LONDON, UNITED KINGDOM

ROYAL WARWICK SQUARE, ONE OF THE CITY'S PRIME RESIDENTIAL AREAS





St. Edwards (Berkeley Group) was the client. Martifer Metallic Constructions was responsible for the design, supply and assembly of the envelope (8,350 sqm of façade) of Blocks E (McLaren House) and H (Sherrin House) of Royal Warwick Square.

These are two 10-storey high luxury residential buildings situated in the well-known area of Kensington, near the Olympia Exhibition Centre and the London Design Museum.

Martifer's works include the design, supply and installation of the complete envelope, which includes 800 sqm of frames, 2,250 sqm of curtain walling, 200 sqm of shades, 5,100 sqm of stone, external false ceilings, and external rainwater drainage pipes, among others.

Royal Warwick Square is in a superb location in the heart of the Royal Borough of Kensington & Chelsea, close to the illustrious neighbourhoods of Holland Park, Knightsbridge & Chelsea.

These areas are among the most sought after in the capital. They transcend fashion, always being considered first-class residential areas and demonstrating Martifer Metallic Constructions' ability to develop high-quality buildings.



LONDON, UNITED KINGDOM

CASHMERE WHARF BUILDING, A MASTERPIECE OF ELEGANCE



Cashmere Wharf (London Dock -Buiding CI) is a 26-storey non-regular building in London with 12,000 sqm of modular curtain walling (with windows and doors), Glass Fins, GRC stone and prefabricated balconies.

Designed by architects Patel Taylor, and supplied and installed by Martifer, Cashmere Wharf is the striking new centrepiece of London Dock with soft lighting, space and extensive views over the Capital.

Cashmere Wharf is at the heart of Lon-

don Dock, overlooking the spectacular Gauging Square with its magnificent water features, shops, and restaurants.

Cashmere Wharf takes on the spirit of its dockside history, developing the architecture where luxury goods and materials were once traded. Glass, reflecting the wider city skyline, comes together with steel and GRC to create an aesthetic masterpiece of elegance, inside and out. An elegant building of unique architecture with 26 floors. This project was a challenge from the point of view of commercial, design and constructive iteration and interpretation. The complex structure of individual glass panels, the "bespoke glazed ends" in steel and glass, the alignment of the different elements and the difficulties in the construction process to provide a stunning finish to an already modern and customised building demonstrate Martifer Metallic Constructions' experience and capacity in this type of complex buildings.







LUANDA, ANGOLA

MARTIFER ANGOLA FINISHES THE GENERAL HOSPITAL OF CABINDA







Martifer Construções Angola finished its intervention in the General Hospital of Cabinda. Mota-Engil Angola was the client. Martifer's intervention included the production and assembly of the façade cladding, which is subdivided into approximately 4,000 sqm of façade, 11,000 sqm of composite panel and 2,000 sqm of grilles, the production and assembly of interior radiological and fireproof frames, the partitions of the intensive care units, interior guardrails and counters.

Located in Buco Ngoyo, 11 kilometres from the city of Cabinda, it has 8 floors and an area of 41,000 sqm with a 350bed capacity. It will include services of internal medicine, paediatrics, surgery, gynaecology and obstetrics, an intensive care unit and an emergency room. The project is part of the programme for the construction of large-scale health units that the Ministry of Health is carrying out in some regions of Angola.

Due to its geography, this project has become a major logistical challenge. Cabinda is an Angolan exclave, bordered in the north by the Republic of Congo, east and south by the Democratic Republic of Congo and west by the Atlantic Ocean.

This will be the largest health unit in the province, and it will also ensure the prac-



tical training process of students enrolled in the various Health courses, as well as facilitate the research activities on tropical diseases prevalent in the country in general, and especially in Cabinda, taking advantage of the several medical fields.

OTHER NOTEWORTHY PROJECTS IN ANGOLA

FIELD HOSPITALS - FIGHT AGAINST COVID-19

Martifer participated in the construction of several field hospitals in Angola to attend Covid-19 patients.

These units have areas for hospitalisation services, administrative services and other support services inherent to the operation of the hospital. Martifer was responsible for the manufacture and assembly of all the metallic structure, external cladding, roof and façade cladding, partition walls and interior ceilings, as well as the manufacture and assembly of all the aluminium frames.

SOYO HOSPITAL



The rehabilitation and consequent expansion of the Soyo Municipal Hospital will include Martifer's participation. With the aim of opening up new hospital service areas, this extension is intended to provide the hospital with the means to meet the needs of patients who currently have to be transferred to other units.

Martifer is responsible for the manufacture and assembly of all aluminium and glass frames.





SOYO NAVAL BASE

Martifer is participating in the requalification and modernisation of the Soyo Naval Facilities, a project for the Angolan Ministry of Defence. The main objective of this construction is to provide the FAA with a modern infrastructure, with high-quality standards and following the international standards of the Maritime Defence and Security sector.

Martifer is responsible for manufacturing



and assembling all aluminium and glass frames.

The work at the Soyo naval base to transform the maritime structure into a logistics support base for the merchant navy includes dredging, construction of the dock and refurbishment of buildings and other infrastructures. This base is located in the Congo River basin, an area of significant geostrategic importance.



RIO LUCOLA BRIDGE

Martifer is participating in the construction of a new bridge over the river Lucola. It is responsible for the manufacture of the metallic structure of the new bridge.

The new bridge will allow greater fluidity in the south-north connection of the city and vice versa.



WIND TOWERS

MORE THAN 7,000 TONNES OF MOULDED STEEL

With several years of experience in the production of wind towers, the Group's production process, regardless of the type, is increasingly optimised, thus ensuring greater efficiency and guaranteeing compliance with deadlines and each client's specific needs.

MEENBOG

no. of towers: 12

Supply of 12 wind towers, model N133/4800 D4K IEC S NCVTS90 TiN (Nordex), including the purchase of all material, totalling about 2,233.5 tonnes of steel.

SAINT SAUVANT

FRANCE no. of towers: 7

Supply of 7 wind towers, model N117/3600 IEC IIa Delta NCV 50HzTS120TiT (Nordex), including the purchase of all material, totalling about 2,160.3 tonnes of steel.

ZAHRENHOLZ

no. of towers: 6

Supply of 6 wind towers, model N131/3600 IEC IIa S NCV 50Hz TS99 TiT/TaT (Nordex), including the purchase of all material, totalling about 1,271,6 tonnes of steel.

NORD SARTHE II

no. of towers: 3

Supply of 3 wind towers, model N131/3000 IEC S Delta NCV 50HzTS106 TiT (Nordex), including the purchase of all material, totalling about 841.9 tonnes of steel.

DE PLAET

no. of towers: 7

Supply of 7 wind towers, model N133/4800 IEC S Delta4000 NCV 50Hz TS83 TiN (Nordex), including the purchase of all material, totalling about 1,136.3 tonnes of steel.



Vitor Figueiredo Board Member

These last two years have undoubtedly been a great challenge since the naval activity area gained expression in the Group. In difficult times, the factors that are often not associated with success stand out. Companies invest, create structures, and gather the means to develop their businesses. When adversity arises, these intangible assets are the ones that do not express themselves in numbers, but are the ones that face difficulties, discover solutions and solve problems. Of course, we are talking about Knowledge, Competence, Commitment and Dedication. They are skills that only people can bring to organisations. These are not requested or bought in any market. We need to work to develop them; we need to invest in them. Above all, we need to know how to preserve them in the

organisation because these assets are the ones that make the difference between success and failure. Our activity is very demanding, and the pandemic has caused new difficulties, bringing variables that we do not control but can overcome. In these troubled times that we are experiencing, we face challenges that are sometimes difficult to overcome every day. With the resilience already demonstrated and the unity of all, goals have been achieved, trust has been strengthened, and our companies are now much more prepared to face adversity. The exemplary way people have been able to interpret and anticipate how to act was undoubtedly the fundamental formula that allowed our companies to keep on working at full speed, showing our partners and clients that they can continue to rely

on our capabilities.

Of course, despite our great skills, there are factors that we do not control and that bring difficult obstacles to overcome and the impossibility of doing things that we had wanted to do but that are not always achieved. The global situation is volatile, and this volatility is exponentially greater in a pandemic scenario. In the market in which we operate, the consequences are distinct. Raw material prices, the energy cost, logistical impacts on supply chains, and uncertainties in delivery times directly impact our activity. This is where anticipation moves sometimes make all the difference. The Naval Repair market suffers from these vectors, but with the difficulties, opportunities also come. The energy transition has

already shown us that there is market potential. It is starting, and it will be promising. This growing need to convert the most polluting vessels with more environmentally friendly solutions will undoubtedly be a real market in which we will be able to act, as we have already demonstrated. With firm conviction, we will move forward with one of the most significant investments made by the Group in recent years, the new Dock, which will be structural and will boost growth in the area of Ship repair and Retrofit.

About the new constructions, as a result of the defined strategy, in which the market niches in which we have been active were identified, one has actually been among the most penalised by the pandemic, which is the cruise ship market. With a very relevant exposure to a client in this activity sector, the impacts are being felt despite all the optimism and the hope that all this is a passing phase.

2022 will be a year in which these difficulties will continue to be felt. Still, we believe that it will also be a year that will once again enable us to relaunch the future in the medium and long term. No doubt about it, all these challenges make us much stronger!

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THREE POLAR EXPEDITION VESSELS, A TUGBOAT, AN OFFSHORE SUPPORT VESSEL, A GENERAL CARGO VESSEL AND THREE CHEMICAL TANKERS.

Despite the difficult year that we experienced in 2021, West Sea kept busy with the entire shipyard occupied. In total, the shipyard had 9 vessels occupying the docks and the docking bays.

NAVAL INDUSTRY

SHIPBUILDING THE WORLD TRAVELLER ALREADY FLOATS!

The World Traveller float occurred in July 2021 after the block and equipment installation phase was successfully completed, as well as tank painting, alignments and some fine-tuning.

This is one of the most important milestones in the construction of a ship because it is when the ship's first values of weight, trim and heel are measured. These data are all verified by the ship's draught and the vertical distance between the bottom of the keel and the waterline. It is also the moment when the water-tightness of the hull and all interconnected equipment and accessories are checked.

Outfitting works on the World Traveller are now underway in the Outfitting Quay.This is the fourth polar expedition vessel to be built by West Sea, and it is expected to be completed in the second half of 2022.







SHIPBUILDING THE WORLD NAVIGATOR - SEA TRIALS PERFORMED SUCCESSFULLY

In May 2021, the World Navigator left the Outfitting Quay of the West Sea Shipyard to begin sea trials. Crucially important in the construction of a ship, this is the time when most sea trials are carried out, and the ship is verified as being seaworthy, safe and in accordance with contractual and Class requirements.

The vessel returned to the shipyard after more than 53 hours out at sea. The mission was successfully accomplished. The ship passed with flying colours in all the requirements of the Authority Autoridade de Bandeira, of the Portuguese Directorate-General for Natural Resources, Safety and Maritime Resources, the United States Coast Guard (USCG), the Ship Classification Organisation, Bureau Veritas (BV), as well as those that were contracted regarding the vessel's comfort.

West Sea took responsibility for most of the testing tasks of the World Voyager, thus demonstrating the high technical skills and experience - a great honour for the team!

The World Navigator is the third Polar Expedition vessel built by West Sea, out of a total of seven for Mystic Cruises. With a capacity for 200 passengers and 117 crew members, these vessels have sophisticated waste treatment systems, water treatment systems, hybrid propulsion with several operating modules and even water jet thrusters that provide a thrust of up to five knots in all directions. They have a dynamic positioning system that avoids the use of anchors, thus protecting the seabed and the environment, as well as providing greater comfort for the passengers and the crew.

The Polar Expedition vessels combine modern and attractive design with the performance for active and sustainable exploration of the Antarctic and Arctic. The ship was built to be fast, exquisite, comfortable and spacious. These ships also offer many common areas, including an observation lounge, a shop, a library, an auditorium, a restaurant and a gym.









SHIP REPAIR

The ship repair segment has decades of experience and knowledge. Our staff is qualified to provide any service, with a highly qualified workforce and extensive experience in any type of ship.

FEATURED REPAIR PROJECTS:



CONTAINER SHIP AS FELICIA

Wilhelmsen Ahrenkiel's container ship AS Felicia arrived on 24 August 2021 at the shipyard. Being 166 metres long and with 25 metres breadth, the ship entered dock no. I to start the repair works.

The main work was the repair of the shaft line, and it lasted 7 days.



ROLL-ON/ROLL-OFF CARGO SHIP LA SURPRISE

La Surprise, Suardiaz's Roll on Roll off cargo ship, arrived at the shipyard on 30 July 2021 for repair work. With 142 metres in length and 21 metres breadth, the ship entered dock no. I, where it stayed for the following three weeks.

The main work was the repair of the plate on the bow by replacing the plate and subsequent painting. The work lasted a month.



CHEMICAL TANKER ELISALEX SCHULTE

PASSENGER SHIP LOBO MARINHO

The Elisabeth Schulte, a chemical tanker owned by Bernhard Schulte Shipmanagement (Cyprus), arrived at the shipyard in September 2021. With 145 metres in length and 23 metres breadth, the main works were:

- Normal docking work;
- Various mechanical work;
- Replacement of steel on starboard bow bulwark;
- Repair various electric motors;
- Cargo tests;
- Installation of ballast water treatment system.

Lobo Marinho, a passenger ship owned by PSL - Porto Santo Line, Transportes Marítimos, Lda arrived at the shipyard in January. With 112 metres in length and 20 metres breadth, the main works were:

- Total painting of the vessel (with the application of silicone painting on quick works);
- Normal docking work (clearances, shaft, rudder, bottom valves, etc.);
- Improvement of several engines and pumps;
- Improvement of three alternators.
- Improvement of several bottom, intermediate and discharge valves;
- Improvement and workshop testing of the various coolers;
- Annual inspections of all LSA (life saving appliances).

GAS CARRIER SHIP TENNA KOSAN

The Tenna Kosan, Epic Kosan's gas carrier ship, arrived at the shipyard in June 2021 for repair work. The 112.5-metre long, 16-metre breadth vessel entered Dock no. 2 to carry out the following repair work:

- Blasting and general painting of the ship;
- Repair of the main engine;
- Replacement of the sealing system by bonding;
- Repair of various electric motors;
- Several plumbing and mechanics works.

The work lasted two weeks.







WEST SEA RENEWS THE CERTIFICATIONS IN SHIPBUILDING, SHIP REPAIR AND RETROFIT

West Sea achieves the goal of renewing quality, safety and environmental certification.

As a result of the Bureau Veritas external

audit of West Sea's integrated management system, which took place in June, the audit team recommended the maintenance of the certification in the three areas - quality, environment and safety. This audit also allowed the transition to the new safety standard, ISO 45001.

ENSURING THE SUSTAINABILITY OF INNOVATION

The naval industry is moving towards decarbonisation and towards more efficient and sustainable fuel switching. Liquefied natural gas is a more economical solution that reduces operating costs and produces fewer emissions.





Hedy Lamarr - West Sea makes another liquefied natural gas conversion for Baleària

Baleària has awarded West Sea the contract to convert the ro-ro (roll on-roll off - vehicle transport) and passenger vessel Hedy Lamarr to operate on liquefied natural gas (LNG).

The ship arrived at the shipyard in October and docked at the Outfitting Quay.



The work carried out was identical to that already carried out on the conversion of the Sicilia and the Martin I Soler, and included the installation of two LNG storage tanks of 425 sqm and 140 sqm and also the modification of the two main engines, in order to allow the ship to sail both on LNG and diesel.

Other works were also carried out, such as the installation of about 80 tonnes of steel to create new spaces, the installation of various equipment for the new system, several plumbing systems, many electrical systems and the installation of "smartship" and an observatory.

Baleària is a Spanish transport company that operates passenger sea crossings in the Mediterranean and in the Caribbean. This is the third conversion project to an LNG system that West Sea has developed for the company.

BUILD YOUR CAREER AT MARTIFER

At Martifer, we trust the work capacity of each professional we recruit, his/her desire to innovate, improve and contribute to the success of the company, every day, wherever he/she is.

Working at Martifer means investing in your career, collaborating in a multinational group recognised for its active strength, with people who are passionate about what they do. Visit our recruitment portal, which lists the open career opportunities in the various Group companies.



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António Castro Board Member

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Unpredictability, as is well known, is a factor that negatively contributes to the economy of countries, companies and, of course, families. 2021 was the second consecutive year in which we all had to face, once again, significant uncertainties caused by the pandemic. Even in this challenging context, the objectives we had set out at the end of 2020 were achieved. Thus: 1. We kept Poland as a core market, where we built three solar parks of 1 MWp. Four projects are already in operation in this country. We also sold a 9 Mwp solar project, maintaining the asset rotation policy that has been an important contribution to the Group's financial balance. We have increased the grid connection points, crucial to developing new projects, and our project development portfolio. In the Operation and Maintenance activity, the company has adapted to the new market rules, remaining a reference company in this type of activity.

2. In the Babadag wind farm in Romania, the challenge was to deal with the energy price volatility, which was achieved.

We started developing a 12 MW solar project in the land of the wind farm that will allow its hybridisation by 2023. Consequently, this will significantly increase this asset's value.

3. In Portugal, the construction of a 1 MWp solar project started in Oliveira de Frades. And the construction of the Self-consumption project (one wind turbine) will also begin in January 2022, in Oliveira de Frades. A memorandum was signed for the first Renewable Energy Industrial Community in Viana do Castelo. The search for new locations to implement further projects continues.

4. In Argentina, Martifer Renewables continues to be present in the market and expects to have two large-scale solar projects in the Ready-to-Bid phase.

Unfortunately, we started the year 2022 the same way as the beginning of 2021. Unpredictability is a reality that continues in all business areas. We know that the challenges that await us will be many in all the countries where we are present. However, since we have experienced and motivated teams, we will overcome the obstacles that will arise in the future.

MARTIFER RENEWABLES

OVERCOMING CHALLENGES WITHOUT LOSING FOCUS

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Another year passed with the ongoing pandemic effects, in which our teams in various geographies had to overcome once more the limitations and constraints in face-to-face communications that are so important in this and I would say in most business areas.



A year ago, with the Covid-19 pandemic, which caused total and partial lockdowns in Portugal, as well as in all countries where Martifer Renewables is present, we could see that the year was very challenging, with huge constraints to the work of the teams.

Another year passed with the ongoing pandemic effects, in which our teams in various geographies had to overcome once more the limitations and constraints in face-to-face communications that are so important in this and I would say in most business areas.

Not only did they face difficulties with public institutions but also with private ones, with landowners, consultants, designers and building contractors, among others.

However, and with our colleague's great capacity, focus and drive, the main and major objectives for 2021 were achieved.

Let's see:

IN PORTUGAL:

- We started the construction of the small production unit of 1 MWp in Oliveira de Frades;

- We started constructing the Production Unit for Self-consumption in Oliveira de Frades. This investment aims to create self-sufficient energy independence in Martifer Group's various production units. In addition to the expected economic advantage, the Group's objective is to collaborate in the reduction of the carbon footprint, in line with PNEC 2030.

- A memorandum of understanding (MoU) was signed for the first Industrial Renewable Energy Community (CER in Portuguese) that shall be built in the Neivaindustrial area, Viana do Castelo.

- We continue to identify and lock new locations for new projects.



IN POLAND, the sale of Korczowa, a 9 MWp solar park that had previously obtained a guaranteed tariff at auction, was a success.

Also in POLAND, Martifer Renewables has around 100 MW under development, with a guaranteed connection to the grid, which today becomes a more and more relevant asset, opening the way to developing new wind farms and solar parks.

Another note is the construction of 3 solar parks with a guaranteed tariff at auction, currently in operation, thus joining the solar park built and in operation since March 2020.

In Operation & Maintenance (O&M), the local company has been adapting to the new market rules to maintain an active presence in the Polish market.

IN ARGENTINA, we currently have two projects in the "ready to bid" phase with around 300 MWp.Thus, we maintain our interest in this very active market.

It was a challenging year in **ROMANIA**, given the volatility of energy prices. However, the team engaged themselves in the project's cost rationalisation plan, optimising the trading of Green Certificates (process included) and in the preparation of the project's entry into the newly established Virtual Power Plant (VPP), which shall benefit the management of the balancing costs of the process and access to new trading possibilities. The wind farm produced 71,619 MVVh/year, equivalent to 48,600 t of avoided CO2 emissions, this projecting Martifer Group to a net zero emission Group.

A 12 MWp solar project is under development, close to the wind farm, aiming to a possible and potential hybridisation of the wind farm, currently under commercial service.

Taking safe steps in the various geographies, we continue to consolidate and build the future of Martifer Renewables.



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The year 2021, which was thought to be a year of health and economic recovery, was the continuation of 2020 when a worldwide pandemic struck us. This theme is unavoidable, yet we managed to grow in 2021, both in oil & gas and industrial maintenance. The latter is currently present in several countries (Qatar, Israel, India and Europe, for example) within the contract scope with Siemens Energy. In Mozambique, a country strongly affected by the Daesh insurgency and the pandemic, we have also grown and strengthened our operation, which is now healthier and more sustainable.

At the (oil & gas) refinery, the challenges were numerous. We intervened in several factories in the Sines complex, the result of the standby that occurred in 2020 which contributed to accelerated degradation of some of the primary equipment. However, these challenges were successfully overcome, and we also had one of the best years ever.

All this was possible because our teams worked tirelessly. They fought for the Martifer brand at all times and under all circumstances, in the most varied places, some of them inhospitable and with very limited available resources. We (I) sincerely thank everyone for their commitment and dedication!

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ENERGY TRANSITION

RENEWABLE HYDROGEN PRODUCTION IN SINES GOES AHEAD WITH THE GREENH2ATLANTIC PROJECT

Martifer, and 12 other companies and partners, are part of a consortium selected by the European Commission under the Green Deal to develop a 100 MW green hydrogen production project in Sines.

Under the name GreenH2Atlantic, the renewable hydrogen production project in Sines shall be developed by a consortium of 13 entities, including companies such as EDP, Galp, Engie, Bondalti, Vestas Wind Systems A/S, McPhy and academic and research partners such as ISQ, INESC-TEC, DLR and CEA, and the public-private Axelera cluster:

GreenH2Atlantic was one of three projects from the numerous submitted to the European Community selected under Horizon 2020 - Green Deal to demonstrate the viability of green hydrogen on an unprecedented production scale and technological application. The EUR 30 million fund will help finance the construction of the hydrogen unit located at the Sines thermoelectric power plant. Construction should start in 2023 and operation in 2025, subject to the necessary authorisations from the authorities.

The 100 MW electrolyser will consist of high capacity (innovative and scalable) 8 MW modules to achieve maximum efficiency, size, useful life and flexibility. Other innovative features include the interface system composed of advanced management technologies that will allow the electrolyser to be directly connected to local hybrid renewable energy (solar and wind).

Green hydrogen is pointed out as one of the pillars of economic growth, being a decisive energy vector in the decarbonisation process of the main sectors of the economy. This project materialises the transition from the old coal-fired power plant in Sines to an innovative renewable hydrogen production unit, in line with the European strategy and carbon neutrality objectives.

With the creation of a hydrogen 'cluster' in Sines, GreenH2Atlantic will significantly contribute to Portugal and the region's sustainability goals. It will be an essential contribution to achieve the energy transition roadmap.

In the development of this ambitious project, Martifer Group will participate in the following activities:

Development and Design of the 8 MW
Electrolyser Modules and the 100 MW
Platform (Balance of Plant)
Assembly of the Electrolyser Modules in the former Coal Power Station
Engineering, Procurement and Construction (EPC) of the Hydrogen Production
Power Plant and Balance of Plant
Operation and Maintenance Activities of the Production Unit

Martifer will participate in the project management activities and the reporting activities dedicated to the replication, exploitation, and industrialisation at the scale of the European Community. And as such, it will also be involved in the communication and promotion activities of the project.



INDUSTRIAL MAINTENANCE PROJECTS UNDER DEVELOPMENT

Continuing the strategy defined in the beginning of 2018, when Martifer Group made the decision of being more present in Industry (oil & gas) and especially in the Industrial Maintenance area, taking advantage of the growth opportunities in this branch of activity; four years later, this business segment is already a relevant reality in the Group, counting on a portfolio of projects under development, from which we highlight:

TANK MAINTENANCE INTERVENTION PLAN – SINES REFINERY (OP-T303)

Conclusion - 02.08.2021

Key tasks performed:

- Repair of stairs and valves manoeuvring blocks
- Application of reinforcements on the roof liner plates, annular plates and bottom panels
- Replacement of the firefighting lines (water and foam)
- Repair and refurbishment of the foam sprinklers

TANK MAINTENANCE INTERVENTION PLAN – SINES REFINERY (OP-T204) Expected conclusion - 21.02.2022

Key tasks performed:

- Repair of stairs and valves manoeuvring blocks
- Full annular bottom plate replacement
- Bottom liner plates partial replacement
- Replacement of the internal floating sealing ring (gasoline storage tank)

TANK MAINTENANCE INTERVENTION - BIOFUEL PRODUCTION PLANT, ENERFUEL (B100800)

Conclusion - 07.12.2021

Key tasks performed

- Redesign of the bottom liner configuration
- Removal of the existent bottom plates at the periphery of the tank
- Installation of an annular bottom plate, fitted under the first shell course
- Refurbishment and refitting of the remaining bottom liner plate with the newly introduced annular plate

ENERGY

LONG TERM SERVICE AGREEMENT (LTSA) WITH SIEMENS ENERGY Portugal, Europe, Israel, India and the Middle East:

Tapada do Outeiro Power Plant (Portugal) Performed successfully January to March 2021

Umm-Al Houl Power Plant (Qatar) Performed successfully January to February 2021

Pego Power Plant (Portugal) Performed successfully February to March 2021

Navigator Power Plant (Setúbal & Figueira da Foz) Performed successfully March 2021

Ras Laffan Power Plant (Qatar) Performed successfully February to April 2021

Ribatejo Power Plant (Portugal) **Performed successfully** March to April 2021

Celtejo Power Plant (Portugal) Performed successfully August 2021 Ribatejo + Tapada Power Plant Outeiro (Portugal) (Quick Inspection) Performed successfully

Brossele Nuclear Power Plant (Netherlands) Performed successfully May to June 2021

Hagit & Gezer Power Plant (Israel) Performed successfully May to July 2021

Outeiro Tapada Power Plant - Gas turbine compressor (Portugal) Performed successfully July 2021

LIPOR II Power Plant (Portugal) Performed successfully July to August 2021

Pont-sur-Sambre Power Plant (France) Performed successfully July to August 2021 T-Power & Marchienne Power Plants (Belgium) Performed successfully July to September 2021

Hemweg Power Plant (Netherlands) Performed successfully August to October 2021

DS Smith Viana Paper Mill (Viana do Castelo) Performed successfully October to November 2021

Tapada do Outeiro Power Plant (Portugal) Performed successfully Novembro 2021

Gezer Power Plant (Israel) Performed successfully September 2021 to January 2022

Ras Laffan Power Plant (Qatar) Performed successfully November 2021 to January 2022

Sugen Power Plant (India) Performed successfully November 2021 to January 2022



Global Maintenance Contract of the Sines Refinery, with Galp Energia Sines Refinery, Portugal

Maintenance of all (active) facilities of the Sines Refinery, in the following specialities: mechanical (dynamic and static), piping, steel structures, electricity and instrumentation, divided into the following Intervention Areas:

Plant I – dedicated to the production of gases, petrol, aviation fuels, diesel and fuel oil

Plant II – several procedural units such as vacuum distillation and visbreaker

Plant III – hydrocracker, hydrogen production unit and sulfur recovery unit

Utilities - production infrastructure and distribution of various utilities stop the refinery

Cogeneration plant – steam and electricity production unit for the refinery (82 MW)

Movement of Products – storage (tanks) of the refinery with a total capacity of 3,500,000 m³.

ENERFUEL – Biodiesel Plant (Global Maintenance Contract) Sines, Portugal

Global maintenance contract for Enerfuel's facilities (biodiesel production), including dynamic and static equipment, piping, electricity and instrumentation, including general preventive and corrective maintenance routines.

VALE – Maintenance Contract for locomotives & railway equipment Nacala, Mozambique

Maintenance and Recovery Services for the locomotives'Traction motors, including all necessary mechanical services, including bearing replacement, machining and painting, as well as all electricity and instrumentation services, including re-rewinding of electric motors, when necessary. This service also includes corrective maintenance of dynamic equipment (pumps, blowers, compressors, dynamic brakes, etc.), all carried out at our facilities in Nacala, Mozambique.



VISITS

MARTIFER GROUP CLOSER TO THE UNIVERSITY OF COIMBRA



To strengthen relationships and intensify the dialogue between the academic world and industry, Martifer Group, represented by a team from Metallic Constructions - Façades, participated in a meeting at the Department of Civil Engineering of the University of Coimbra, and accompanied a glass panel submitted to wind action laboratory test. The initiative also included the visit to the Laboratory of Construction, Structures and Structural Mechanics, where the experimental research work, the static, dynamic and fire resistance tests, as well as the quality control tests of materials and construction systems were carried out.

Martifer Group has always favoured relationships with educational entities to innovate and attract talent and keep itself up-to-date with technological advances. Over more than 30 years, there have been many Martifer projects with academic intervention. And Martifer has participated in many university research projects, seminars, conferences and other events.

Industry relies on constant innovation to compete in an increasingly agile and competitive global market. Universities, in turn, are under increasing pressure to abandon their traditional teaching role and respond to current market needs. In this sense, these partnerships are an added value in both directions in a structured and sustained way: universities support industry with innovation, and industry provides real cases to give practical meaning to research.

Martifer Group wants to remain at the forefront as an example of innovation and of exceptional engineering solutions. It will only achieve this with the best professionals, researchers, and most renowned professors in their areas of expertise.

MARTIFER GROUP RECEIVES THE VISIT OF CIVIL ENGINEERING MASTER STUDENTS FROM THE UNIVERSITY OF COIMBRA



Students from the 5th year of the Integrated Masters in Civil Engineering of the University of Coimbra visited Martifer's facilities in Oliveira de Frades.

The visit began with a brief presentation of the Group, followed by a presentation by the Technical Direction of some of Martifer's projects and work techniques. The Human Resources Direction and Martifer maintain close contact with the Civil Engineering Department of the University of Coimbra, a contact with particular importance at a time when recruitment processes have been increasing in the Group.

EVENTS

MARTIFER PARTICIPATED IN CONSTRUVIRT 2021



In a pandemic context, some face-to-face events and fairs gave way to virtual events to minimise the lack of contacts and business relationships.

Martifer Metallic Constructions participated in CONSTRUVIRT 2021 - Feria Virtual de la Construcción on 24-26 March, where the most relevant companies in the sector were represented.

In addition to the commercial presence, there were also some conferences on relevant topics of the construction sector. "El uso del vidrio como elemento estructural" was the topic presented by Miguel Ángel Ruiz (Commercial Director for Spain) in collaboration with Miguel Ángel Nuñez (Technical Director of ENAR).

10 YEARS SAUDI MARTIFER -CONGRATULATIONS!



In 2021, Martifer Group celebrated 10 years in Saudi Arabia. Everyone in the Group is proud of Martifer in Saudi Arabia. Due to the geographical, religious and cultural context, those who have lived or live in the country do so with dedication, commitment and great personal sacrifice.

IOYEARS, IO PROJECTS

King Abdullah Sports City Stadium "Martifer's largest project in Saudi Arabia" Karwest Bridge

"A viaduct between the main roads of Riyadh, where 600,000 cars go by per day" **Abi Bakr Bridge** - Portugal Bridges AWARDS 2018, National Award "Assembly of the main structure, with 3,500 t of steel in just 3 months"

King Abdullah Petroleum Studies and Research Centre

"Architecture by Zaha Hadid, it is one of the most sustainable complexes in the country"

King Abdullah Financial District

"59 towers, 1.6 million sqm, a new city in the middle of the desert"

Prince Abdullah Al Faisal Stadium

"Inaugurated in September 2021, it was built in honour of Prince Abdullah"

Multipurpose Facility, Damman University

"5,000 seats on a steel structure which shapes the space"

King Fahd Road Metro Riyadh Bridge/ Line 2

"Viaduct with 264 m steel crossing the city's main motorway"

Al Faisaliah Shopping Centre

"The city's iconic shopping centre"

Park & Ride

"We continue on the great project of the Riyadh Metro"

EVENTS WEST SEA CELEBRATED ITS 7TH ANNIVERSARY!

On 27 May 2014, West Sea began operations in the shipyard of Viana do Castelo. 7 years of history, challenges, courage, determination, different projects and people who have never been discouraged by difficulties.

Martifer increased its shipbuilding and ship repair capacity with the company West Sea. A total of 18 constructions to date (10 river cruise ships, 2 military ships, 3 polar expedition vessels, a dredger and a dock door), 2 conversions, 265 ships have been repaired, and 4 polar expedition vessels are being built.



WEST SEA IS ONE OF CITIN'S FOUNDING COMPANIES

The deed of incorporation of CiTin - Associação Centro de Interface Tecnológico Industrial took place at Escola Superior Agrária of the Polytechnic Institute of Viana do Castelo and included the presence of the 16 founding companies, among which West Sea.

CiTin is a new non-profit entity with the mission of developing applied research and technology transfer activities. Its main objective is to implement a structure responsible for promoting innovation in companies and supporting its development in Alto Minho, as an innovation driver in the region, in a symbiotic and synergetic relationship with the other ecosystem entities. This project will leverage the competitiveness of the region and the companies, as well as the institutions that integrate innovation.

Besides West Sea, CiTin includes other entities, such as the Municipality of Arcos

de Valdevez, the Intermunicipal Community of Alto Minho, the Polytechnic Institute of Viana do Castelo, the Business Confederation of Alto Minho and the Incubator of Innovative Business Initiatives. West Sea's participation in this association will help develop projects and innovative solutions applied to the naval industry, share knowledge, and establish close relations with entities of the scientific-technological system in Alto Minho.


EVENTS

WEST SEA HAS A NEW WEBSITE!

West Sea has a new website. This new website adapts the way West Sea communicates to new media and digital platforms while seeking to reach different users more clearly and directly: clients, suppliers, shareholders and the general public.

Here, you can check the latest company news, learn more about the shipyard and the construction, repair and conversion projects, and get in touch to clarify any issues. West Sea's **new website** is already online! Visit us at www.west-sea.pt



NAVALRIA SPONSORS THE AVEIRO CANALS CIRCUIT

The second edition of the Aveiro Canals Circuit took place on 14 November, in the urban canals of the city Aveiro and it was sponsored by Martifer Group, through Navalria.

The 2021 edition was organised in partnership with the Portuguese Canoe Federation and with the support of the City Hall of Aveiro. It was a huge success among the country's canoeing clubs, many of which participated in this sports event. There were 22 clubs present, with 650 athletes competing during the whole morning.

The start and the finish lines were at Cais da Fonte Nova, near the Mélia Ria Hotel and the races took place along the entire length of the city canals.



EVENTS WEST SEA WAS PRESENT AT PORTO MARITIME WEEK 2021







Porto Maritime Week 2021 took place from 20 to 24 September at the Crowne Plaza Porto at the Leixões Seaport. It was a week dedicated to the maritime sector in Portugal, which brought together hundreds of professionals and national and international speakers to reflect on and discuss the present and future of intermodality, ports, maritime transport, training, human resources, the cruise industry and the naval industry, among other issues.

West Sea participated in two panels on 22 September: "The future of merchant ships" with Marco Costa and "The Portuguese naval industry" with Vitor Figueiredo.

Marco Costa addressed the theme of naval architecture and vessel improvement, showing that "it is possible to do more and better in this aspect. We have to move on to other technologies to meet all environmental requirements. Several architectural firms and designers are working on improving the hulls, and the most recent major known improvement is probably the painting of the vessels using silicone.""The evolution of shipbuilding will continue, and it is likely to follow the car industry with batteries applicable for short journeys. LNG is a solution that has been used in the last 20 years and, without doubt, hydrogen may be the future."

Vítor Figueiredo referred that West Sea managed to grow and have a considerable business volume in the last two years despite the pandemic."First of all, I must say that our teams were tireless, complying with all protective measures and were always one step ahead of the Ministry of Health's recommendations. We had a ship being built during this period, and we managed to deliver it on time."The board member added that West Sea has successfully entered the ship conversion market, having converted two traditional diesel vessels to liquefied natural gas, believing that this is a promising market. "Viana do Castelo has a great tradition in

naval construction and repair, and we have managed to take advantage of the knowhow of that entire region (...). Even with the difficulties caused by Covid-19, we have an approved investment plan. We are going to build a new dock, and we want it to be up and running within two years. To grow, we have to invest. But this only makes sense because the partnership we made with the State is working.''

AWARDS

PORTUGUESE STEELWORK ASSOCIATION CONGRESS - STEEL DESIGN AWARDS

The 13th edition of the Steel and Composite Construction Congress was held online on 25 and 26 November:The Portugal Steel Design Awards 2021 and the European Steel Design Awards were awarded.

Both awards distinguished Martifer and Geneva Airport. João Pinheiro, Commercial Director of Martifer Construções, received the awards.

Portugal Steel Design Awards 2021 awards projects or constructions carried out by companies that are members of the Portuguese Steelwork Association (CMM).The main objective is to give visibility and encourage the creative use of steel in architecture at a national level.

The European Steel Design Awards is organised by the European Convention for Constructional Steelwork (ECCS) every two years to encourage the creative and remarkable use of steel in architecture. The awards are given to project owners, architects, engineers, general contractors and metalworking companies.

ABOUT THE STEEL AND COMPOSITE CONSTRUCTION CONGRESS

The Steel and Composite Construction Congress's main objective is to disseminate the latest innovations and achievements in this type of construction, seeking to contribute decisively to the sector's promotion, consolidation, and expansion.

The conference wants to be a privileged place for exchanging ideas and experiences in the design and execution of steel and composite constructions, and in the research and teaching fields.









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